DIN 432 83 ■ 2794446 0014741 9 ■

UDC 621.882.54 DEUTSCHE NORM November 1983

External tab washers

(Locking tab washers)

DIN 432

Scheiben mit Aussennase (Sicherungsbleche mit Nase)

Supersedes July 1974 edition

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

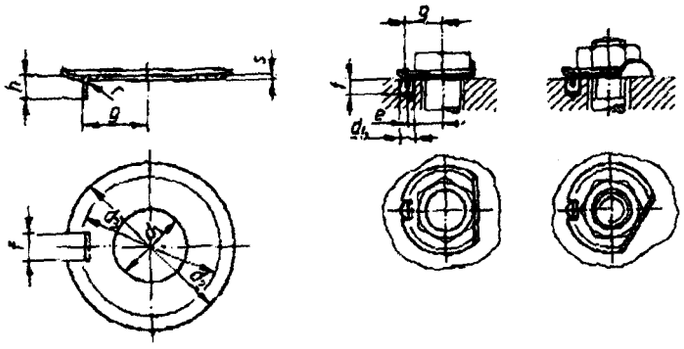
Dimensions in mm

1 Field of application

This standard specifies requirements for external tab washers (previously known as locking tab washers), which are used in threaded fastenings. They are intended to prevent the fastening loosening off. The washer's effectiveness depends on the design conditions of the particular case and on the loading of the fastening.

2 Dimensions, designation

Assembly dimensions



Designation of a steel (St) washer with clearance hole diameter d_1 = 10,5 mm:

Washer DIN 432 – 10,5 – St

Continued on pages 2 and 3

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DIN 432 Engl. Price group 5
Sales No. 0105

d_1	d_2	d_3 ≈	f [1]	g	h ≈	r	s	Mass (7,85 kg/dm³) kg/1000 units ≈	d_a	e	t	For thread diameter
3,2	12	8	2,5	4,5	2	0,4	0,4	0,33	4	4,3	2,5	3
3,7	12	8	2,5	4,5	2	0,4	0,4	0,32	4	4,3	2,5	3,5
4,3	14	10	2,5	5,5	2	0,4	0,4	0,44	4	5,3	2,5	4
5,3	17	12	3,5	7	2,5	0,6	0,75	1,20	5	6,62	3,5	5
6,4	19	14	3,5	7,5	3	0,6	0,75	1,48	5	7,12	3,5	6
7,4	19	14	3,5	7,5	3	0,6	0,75	1,42	5	7,12	3,5	7
8,4	22	16	3,5	8,5	4	1	1	2,54	5	8	4	8
10,5	26	20	4,5	10	4	1	1	3,49	6	9,5	4	10
13	30	24	4,5	12	4,5	1	1,2	5,48	6	11,4	5	12
15	33	27	4,5	13	4,5	1	1,2	6,38	6	12,4	5	14
17	36	30	5,5	15	4,5	1	1,2	7,46	7	14,4	5	16
19	40	34	6,5	18	4,5	1	1,2	9,15	8	17,4	5	18
21	42	36	6,5	18	4,5	1	1,6	13,1	8	17,2	5	20
23	50	43	7,5	20	6,5	1	1,6	19,4	9	19,2	7	22
25	50	43	7,5	21	6,5	1	1,6	18,5	9	20,2	7	24
28	58	50	8,5	23	9,5	1	1,6	24,8	10	22,2	9	27
31	63	55	8,5	25	9,5	1	1,6	29,8	10	24,2	9	30
34	68	60	9,5	28	9,5	1	1,6	34,2	11	27,2	9	33
37	75	67	11	31	9,5	1	2	52,5	13	30	9	36
40	82	74	11	33	11	1	2	63,3	13	32	11	39
43	88	80	11	36	11	1	2	72,5	13	35	11	42
46	95	85	13	38	12	1	2	85,3	15	37	12	45
50	100	90	13	40	13	1	2	93	15	39	13	48
54	105	95	13	42	13	1	2	100	15	41	13	52
58	112	102	16	45	14	1,6	2,5	141	18	43,75	14	56
62	118	108	16	48	13,5	1,6	2,5	155	18	46,75	14	60
66	125	115	18	52	13,5	1,6	2,5	174	20	50,75	14	64
70	132	122	18	55	14	1,6	2,5	192	20	53,75	16	68
74	138	128	18	58	14	1,6	2,5	209	20	56,75	16	72
78	145	135	21	60	14	1,6	2,5	230	23	58,75	16	76
82	150	140	21	62	16	1,6	2,5	242	23	60,75	18	80
93	165	155	23	70	15,5	1,6	2,5	287	25	68,75	18	90
104	185	175	23	80	15,5	1,6	2,5	370	25	78,75	18	100

[1] f = width of tab.

3 Technical delivery conditions

3.1 Material

St = St 12 O3 as specified in DIN 1623 Part 1 or
St 2 K 32 BK as specified in DIN 1624, at manufacturer's discretion.
CuZn = CuZn36 F30 (previously Ms63 F30) as specified in DIN 17 670 Part 1.
Other materials subject to agreement.

3.2 Finish

Product grade A (previously design *m*) as specified in DIN 522.
Surface protection subject to agreement.

3.3 Acceptance testing

As specified in DIN 522.

Standards referred to

DIN	522	Washers; technical delivery conditions
DIN	1623 Part 1	Steel flat products; cold rolled strip and sheet; technical delivery conditions; mild unalloyed steels for cold forming operations
DIN	1624	Steel flat products; cold rolled mild unalloyed steel strip, rolled in widths up to 650 mm; quality standard
DIN 17 670 Part 1		Wrought copper and copper alloy plate, sheet and strip; strength properties

Previous editions

DIN LON 406: 04.26; DIN 432: 10.21, 04.27; DIN 432 Part 1 and Part 2: 10.36; DIN 432: 05.43, 02.54, 07.74

Amendments

Compared with the July 1974 edition, the following amendments have been made:

a) Some washer thicknesses have been reduced.

b) Washers with clearance hole diameters d_1 = 116 to 155 mm have been deleted.

c) Design m renamed product grade A. See Explanatory notes.

Explanatory notes

The washer thicknesses (dimension s) were increased in the July 1974 edition of DIN 432. This was a consequence of a proposal which was intended to give the washers as great a stability as possible, in order to reduce the risk of the washer which has been bent up against the bolt or nut bending back under either dynamic or static loading. However, difficulties arose with the greater thicknesses after the July 1974 edition was published. The bending radius of the washer can be too small or the bolt head or nut is damaged, depending on the design, style and shape of the bolt or nut. This applies, for instance, for thin nuts or nuts made from relatively mild materials. The washer thicknesses were accordingly reduced, but not to the earlier values in all cases.

No technical changes have been made except for this change in washer thickness and thus also in the mass of the washers. Washers for thread diameters exceeding 100 mm have been deleted as it was not possible to establish any appreciable demand for those sizes.

In accordance with DIN 522, which has been aligned with International Standard ISO 4759/3, design m has been replaced by product grade A, without this causing any essential changes to the previous specifications.

A "field of application" clause has been inserted to give some information concerning the washers and makes clear that, depending on the circumstances, certain considerations are necessary in the use of the washers.

International Patent Classification

F 16 B 39-10